

What is Claimed is:

1. An abrasive article comprising

a backing having a major surface; and

an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising

superabrasive particles;

a continuous phase; and

a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500 and an AV of greater than 4.5.

2. The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 1000.

3. The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 3000 and about 4000.

4. The abrasive article of claim 3 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 5 and about 7.5.

5. The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of between about 8000 and about 9000.

5 6. The abrasive article of claim 5 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having an AV of between about 12 and about 13.

10 7. The abrasive article of claim 1 wherein the abrasive coating comprises at least about 30% by weight of a superabrasive particle.

8. The abrasive article of claim 7 wherein the abrasive coating comprises between about 30% by weight and about 80% by weight of a superabrasive particle.

15 9. The abrasive article of claim 1 wherein the abrasive coating is derived from an abrasive slurry further comprising a binder precursor.

10. The abrasive article of claim 9 wherein the abrasive coating comprises a binder.

20 11. The abrasive article of claim 1 wherein the superabrasive particle is diamond.

12. The abrasive article of claim 11 wherein the diamond has a particle size less than 2 micrometers.

13. An abrasive article comprising

a backing having a major surface; and

an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising

superabrasive particles;

a continuous phase; and

a dispersant comprising a polymer having a molecular weight (Mw) of greater than 10,000 and an AV of greater than 1.0.

14. An abrasive article comprising

a backing having a major surface; and

an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising

superabrasive particles;

a continuous phase; and

a dispersant comprising a polymer having a molecular weight (Mw) of greater than 100,000 and an AV of greater than 0.

15. The abrasive article of claim 14 wherein the abrasive coating is derived from an abrasive slurry comprising a dispersant comprising a polymer having a molecular weight (Mw) of greater than 150,000.

16. An abrasive article comprising

a backing having a major surface; and

an abrasive coating on the major surface of the backing comprising at least 20% by weight of a superabrasive particle, wherein the abrasive coating is derived from an abrasive slurry comprising

superabrasive particles;

a continuous phase; and

a dispersant comprising a polymer having a molecular weight (Mw) of greater than 500 and a measurable total Amine Value.

17. A method of manufacturing an abrasive article comprising

coating an abrasive slurry comprising superabrasive particles, a continuous phase and a dispersant comprising a polymer having an average molecular weight (Mw) of greater than 500 and an AV of greater than 4.5 onto a backing, wherein the superabrasive particles comprise at least 20% dry weight of all solids in the slurry; and

solidifying the abrasive slurry.

18. The method of claim 17 wherein the abrasive slurry is cured.